We claim:

1. An apparatus, comprising:

a thin layer of material for attaching to a semiconductor wafer surface, the thin layer having a first surface and a second surface substantially parallel to the first surface, and wherein a first light beam of wavelength λ and a second light beam of wavelength λ entering the thin layer of material have different transmission coefficients when propagating through the thin layer of material in the same propagation direction, the propagation direction having an angle a between 35 degrees and 85 degrees with respect to the normal to the first surface, wherein the first light beam is linearly polarized parallel with the first surface and the second light beam has polarization orthogonal to the first light beam, and wherein the first light beam exposes an unexposed photoresist material attached to the semiconductor wafer surface with sufficient dose for forming a pattern on the semiconductor wafer, and wherein the second light beam exposes the unexposed photoresist material with insufficient dose for forming a pattern on the semiconductor wafer.

2. The thin layer of material of claim 1, wherein the layer is film for attaching to a photoresist layer attached to the semiconductor surface.

3. The thin layer of material of claim 2, wherein the film is a multilayer dielectric film having a higher reflection coefficient for the second beam than the first beam.

4. The thin layer of material of claim 2, wherein the thin layer contains entities, each of the entities having an axis, wherein each entity is aligned with its axis having a particular direction with respect to the normal to the first surface.

5. An apparatus, comprising:

a thin layer of solid material, the thin layer having a first surface and a second surface substantially parallel to the first surface, the thin layer containing entities, each of the entities having an axis, wherein each entity is aligned with its axis having a particular direction with respect to the normal to the first surface, and wherein a first light beam and a second light beam entering the thin layer of material have different transmission coefficients when propagating through the thin layer of material in the same propagation direction having an angle a between 35 degrees and 85 degrees with respect to the normal to the first surface, wherein the first light beam is linearly polarized parallel with the first surface and the second light has orthogonal polarization orthoganal to the first light beam.

6. The thin layer of material of claim 5, wherein the first light beam is preferentially absorbed over the second light beam, and wherein the absorbed light causes the thin layer of material to act as an exposed photoresist.

7. The thin layer of material of claim 6, wherein the entities are molecules.

8. The thin layer of material of claim 7, wherein the entities are aligned liquid crystal molecules.

9. The thin layer of material of claim 8, wherein the entities are aligned liquid crystal molecules in a polymerized matrix.

10. The thin layer of material of claim 7, wherein the entities are polymer molecules aligned with axis aligned parallel to the first surface and randomly aligned with each other.

11. The thin layer of material of claim 5, wherein the second light beam is preferentially absorbed over the first light beam .

12. The thin layer of material of claim 11, wherein the thin layer of material is adjacent a photoresist layer attached to a semiconductor substrate, and wherein the light having polarization parallel to the surface passes through the thin layer into the photoresist layer and exposes the photoresist layer and wherein light having a substantial component of polarization perpendicular to the surface does not pass through the layer and expose the photoresist layer.

13. The thin layer of material of claim 12, wherein the thin layer of material is applied to the photoresist layer by lamination.

14. The thin layer of material of claim 1, the thin layer of material is applied to the photoresist layer by applying a liquid adjacent the photoresist layer, wherein the liquid layer solidifies into a solid layer.

15. The thin layer of material of claim 5, wherein the entities are molecules.

16. The thin layer of material of claim 15, wherein the entities are aligned liquid crystal molecules.

17. The thin layer of material of claim 15, wherein the entities are aligned liquid crystal molecules in a polymerized matrix.

18. The thin layer of material of claim 15, wherein layer comprises at least one Langmuir-Blodgett film.

19. The thin layer of material of claim 15, wherein the entities are polymer molecules aligned with axis aligned parallel to the first surface and randomly aligned with each other.

20. The thin layer of material of claim 5, wherein the first light beam and the second light beam have wavelength λ less than 260 nm.

21. The thin layer of material of claim 20, wherein the first light beam and the second light beam have wavelength λ less than 200 nm.

23. The thin layer of material of claim 21, wherein the first light beam and the second light beam have wavelength λ less than 160 nm.

24. An apparatus, comprising:

a semiconductor wafer having a surface;

a thin layer of material attached adjacent the semiconductor wafer surface, the thin layer having a first surface and a second surface substantially parallel to the semiconductor wafer surface, and wherein a first light beam of wavelength λ and a second light beam of wavelength λ entering the thin layer of material have different transmission coefficients when propagating through the thin layer of material in the same propagation direction, the propagation direction having an angle a between 35 degrees and 85 degrees with respect to the normal to the semiconductor surface, wherein the first light beam is linearly polarized parallel with the first surface and the second light beam has polarization orthogonal to the first light beam, and wherein the first light beam exposes an unexposed photoresist material attached to the semiconductor wafer surface with sufficient dose for forming a pattern on the semiconductor wafer, and wherein the second light beam exposes the unexposed photoresist material with insufficient dose for forming a pattern on the semiconductor wafer.

26. The thin layer of material of claim 24, wherein the thin layer contains entities, each of the entities having an axis, wherein each entity is aligned with its axis having a particular direction with respect to the normal to the wafer surface.

27. The thin layer of material of claim 26, wherein the entities are molecules.

28. The thin layer of material of claim 27, wherein the entities are aligned liquid crystal molecules.

29. The thin layer of material of claim 28, wherein the entities are aligned liquid crystal molecules in a polymerized matrix.

30. The thin layer of material of claim 27, wherein the entities are polymer molecules aligned with axis aligned parallel to the first surface and randomly aligned with each other.

31. An apparatus, comprising:

a semiconductor wafer having a surface;

a thin layer of unexposed photoresist material attached to the surface of the semiconductor wafer;

a thin layer of material attached to the photoresist layer, wherein a first light beam of wavelength λ and a second light beam of wavelength λ entering the thin layer of material have different transmission coefficients when propagating through the thin layer of material in the same propagation direction, the propagation direction having an angle a between 35 degrees and 85 degrees with respect to the normal to the first surface, wherein the first light beam is linearly polarized parallel with the first surface and the second light beam has polarization orthogonal to the first light beam, and wherein the first light beam exposes the unexposed photoresist material attached to the semiconductor wafer surface with sufficient dose for forming a pattern on the semiconductor wafer, and wherein the second light beam exposes the unexposed photoresist material with insufficient dose for forming a pattern on the semiconductor wafer.

32. The thin layer of material of claim 31, wherein the thin layer contains entities, each of the entities having an axis, wherein each entity is aligned with its axis having a particular direction with respect to the normal to the wafer surface.

33. The thin layer of material of claim 32, wherein the entities are molecules.

34. The thin layer of material of claim 33, wherein the entities are aligned liquid crystal molecules.

35. The thin layer of material of claim 34, wherein the entities are aligned liquid crystal molecules in a polymerized matrix.

36. The thin layer of material of claim 33, wherein the entities are polymer molecules aligned with axis aligned parallel to the first surface and randomly aligned with each other.

37. The thin layer of material of claim 31, wherein the film is a multilayer dielectric film having a higher reflection coefficient for the second beam than the first beam.